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Items 1 - 3 of 3 One page.

1: Blixt O, Vasiliu D, Allin K, Jacobsen N, Warnock D, Razi N, Paulson JC, Bernatchez S, Gilbert M, Wakarchuk W. Related Articles, Links

Chemoenzymatic synthesis of 2-azidoethyl-ganglio-oligosaccharides GD3, GT3, GM2, GD2, GT2, GM1, and GD1a.
Carbohydr Res. 2005 Sep 5;340(12):1963-72.
PMID: 16005859 [PubMed - in process]

2: Gilbert M, Brisson JR, Karwaski MF, Michniewicz J, Cunningham AM, Wu Y, Young NM, Wakarchuk WW. Related Articles, Links

Biosynthesis of ganglioside mimics in Campylobacter jejuni OH4384. Identification of the glycosyltransferase genes, enzymatic synthesis of model compounds, and characterization of nanomole amounts by 600-mhz (1)h and (13)c NMR analysis.
J Biol Chem. 2000 Feb 11;275(6):3896-906.
PMID: 10660542 [PubMed - indexed for MEDLINE]

3: Eichler E, Jennings HJ, Gilbert M, Whitfield DM. Related Articles, Links

Synthesis of a disialylated hexasaccharide of type VIII group B Streptococcus capsular polysaccharide.
Carbohydr Res. 1999 Jun 30;319(1-4):1-16.
PMID: 10520252 [PubMed - indexed for MEDLINE]

Sep 14 2005 04:34:46

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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L2	76	"2,3" near4 sialyltransferase	USPAT	OR	OFF	2005/09/20 17:38
L3	9	l1 and l2	USPAT	OR	OFF	2005/09/20 17:38

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L1           16 JEJUNI (4A) SIALYLTRANSFERASE

=> s 2,3 (4A) sialyltransferase
L2         1217 2,3 (4A) SIALYLTRANSFERASE

=> s l1 and l2
L3            6 L1 AND L2

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L4   ANSWER 1 OF 6  BIOSIS  COPYRIGHT (c) 2005 The Thomson
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AN   2004:151684  BIOSIS
DN   PREV200400154694
TI   Lipopolysaccharide alpha-2,3 sialyltransferase
     of Campylobacter jejuni and its uses.
AU   Gilbert, Michel [Inventor, Reprint Author]; Wakarchuk, Warren W.
     [Inventor]
CS   Hull, Canada
     ASSIGNEE: National Research Council of Canada, Ottawa, Canada
```

PI US 6689604 20040210
SO Official Gazette of the United States Patent and Trademark Office Patents,
(Feb 10 2004) Vol. 1279, No. 2.
http://www.uspto.gov/web/menu/patdata.html
. e-file.
ISSN: 0098-1133 (ISSN print).
DT Patent
LA English
ED Entered STN: 17 Mar 2004
Last Updated on STN: 17 Mar 2004
AB The structure and specificity of a recombinant alpha2,3-sialyltransferase
from Campylobacter spp., is disclosed. Also provided are methods for
using the alpha2,3-sialyltransferase in the production of desired carbohydrate structures and nucleic acids that encode the sialyltransferase.

L4 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:106956 CAPLUS
DN 140:316978
TI Structural analysis of the **sialyltransferase** CstII from Campylobacter **jejuni** in complex with a substrate analog
AU Chiu, Cecilia P. C.; Watts, Andrew G.; Lairson, Luke L.; Gilbert, Michel;
Lim, Daniel; Wakarchuk, Warren W.; Withers, Stephen G.; Strynadka, Natalie
C. J.
CS Department of Biochemistry and Molecular Biology, University of British
Columbia, Vancouver, BC, V6T 1Z3, Can.
SO Nature Structural & Molecular Biology (2004), 11(2), 163-170
CODEN: NSMBCU; ISSN: 1545-9993
PB Nature Publishing Group
DT Journal
LA English
AB Sialic acid terminates oligosaccharide chains on mammalian and microbial
cell surfaces, playing critical roles in recognition and adherence. The
enzymes that transfer the sialic acid moiety from cytidine-5'-monophospho-
N-acetyl-neuraminic acid (CMP-NeuAc) to the terminal positions of these
key glycoconjugates are known as sialyltransferases. Despite their
important biol. roles, little is understood about the mechanism or mol.
structure of these membrane-associated enzymes. We report the first
structure of a sialyltransferase, that of CstII from Campylobacter jejuni,

a highly prevalent foodborne pathogen. Our structural, mutagenesis and kinetic data provide support for a novel mode of substrate binding and glycosyl transfer mechanism, including essential roles of a histidine (general base) and two tyrosine residues (coordination of the phosphate leaving group). This work provides a framework for understanding the activity of several sialyltransferases, from bacterial to human, and for the structure-based design of specific inhibitors.
RE.CNT 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:276514 CAPLUS
DN 136:320378
TI Campylobacter glycosyltransferase genes and enzymes for biosynthesis of gangliosides and ganglioside mimics
IN Gilbert, Michel; Wakarchuk, Warren W.
PA National Research Council of Canada, Can.
SO U.S. Pat. Appl. Publ., 84 pp., Cont.-in-part of U.S. Ser. No. 495,406.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002042369	A1	20020411	US 2001-816028	20010321
US 6699705	B2	20040302		
US 6503744	B1	20030107	US 2000-495406	20000131
CA 2441570	AA	20020926	CA 2002-2441570	20020222
WO 2002074942	A2	20020926	WO 2002-CA229	20020222
WO 2002074942	A3	20030313		
WO 2002074942	B1	20030703		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,

PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB,
GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1385941	A2	20040204	EP 2002-703414	20020222
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004524033	T2	20040812	JP 2002-574334	20020222
US 2003148459	A1	20030807	US 2002-303161	20021121
US 2003157655	A1	20030821	US 2002-303118	20021121
US 6905867	B2	20050614		
US 2003157656	A1	20030821	US 2002-303128	20021121
US 6911337	B2	20050628		
US 2003157657	A1	20030821	US 2002-303134	20021121
US 6825019	B2	20041130		
US 2003157658	A1	20030821	US 2002-303162	20021121
US 6723545	B2	20040420		
US 2004180406	A1	20040916	US 2003-735419	20031211
US 2004203103	A1	20041014	US 2004-820536	20040407
US 2004229313	A1	20041118	US 2004-821573	20040408
US 2004229263	A1	20041118	US 2004-821604	20040408
US 2004265875	A1	20041230	US 2004-830825	20040424
US 2004203112	A1	20041014	US 2004-845408	20040512
US 2004203113	A1	20041014	US 2004-845412	20040512
US 2004219638	A1	20041104	US 2004-846219	20040514
US 2004229272	A1	20041118	US 2004-847983	20040517
US 2004259203	A1	20041223	US 2004-850125	20040519
US 2004259140	A1	20041223	US 2004-850807	20040521

US 2005048630 A1 20050303 US 2004-962334
20041008
US 2005084891 A1 20050421 US 2004-962235
20041008
PRAI US 1999-118213P P 19990201
US 2000-495406 A2 20000131
US 2001-816028 A 20010321
WO 2002-CA229 W 20020222
US 2002-303118 A3 20021121
US 2002-303128 A1 20021121
US 2002-303134 A3 20021121
AB This invention provides Campylobacter **jejuni** glycosyltransferases, including a bifunctional **sialyltransferase** that has both an α2,3- and an α2,8-activity. A β1,4-GaINAc transferase and a β1,3-galactosyltransferase are also provided by the invention, as are other glycosyltransferases and enzymes involved in synthesis of lipooligosaccharide (LOS). In addnl. embodiments, the invention provides nucleic acids that encode the glycosyltransferases, as well as expression vectors and host cells for expressing the glycosyltransferases. The enzymes may be used in preparation of gangliosides, lysogangliosides, and mimics of gangliosides and lysogangliosides. Thus, C. jejuni gene cstI α **2,3** -**sialyltransferase**, gene cstII bifunctional α **2,** **3**/α2,8- **sialyltransferase**, gene cgtA β-1,4-N-acetylgalactosaminyltransferase, and gene cgtB β-1,3-galactosyltransferase enzymes were used to prepare the carbohydrate portion of gangliosides GM1a, GM2, GM3, GD1a, GD3, and GT1a.

L4 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:553711 CAPLUS
DN 133:161277
TI Campylobacter glycosyltransferases for biosynthesis of gangliosides and ganglioside mimics
IN Gilbert, Michel; Wakarchuk, Warren W.
PA National Research Council of Canada, Can.
SO PCT Int. Appl., 120 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000046379	A1	20000810	WO 2000-CA86	20000201

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU,
CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,
IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, ZA,
AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 6503744	B1	20030107	US 2000-495406	20000131
CA 2360205	AA	20000810	CA 2000-2360205	20000201
EP 1147200	A1	20011024	EP 2000-901455	20000201

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, LT, LV, FI, RO

JP 2002535992	T2	20021029	JP 2000-597438	20000201
AU 772569	B2	20040429	AU 2000-22743	20000201

PRAI US 1999-118213P	P	19990201	
US 2000-495406	A	20000131	
WO 2000-CA86	W	20000201	

AB This invention provides prokaryotic glycosyltransferases, including a bifunctional sialyltransferase that has both an α2,3- and an α2,8- activity. A β1,4-GalNAc transferase and a β1,3-galactosyltransferase are also provided by the invention, as are other glycosyltransferases and enzymes involved in synthesis of lipooligosaccharide (LOS). The glycosyltransferases can be obtained from, for example, Campylobacter species, including C. jejuni. In addnl. embodiments, the invention provides nucleic acids that encode the glycosyltransferases, as well as expression vectors and host cells for expressing the glycosyltransferases.

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:626342 CAPLUS
DN 131:253359
TI Campylobacter jejuni gene cst-I lipopolysaccharide α- **2**,

3 sialyltransferase, its DNA and amino acid sequences, recombinant production, and its acceptor specificity

IN Gilbert, Michel; Wakarchuk, Warren W.

PA National Research Council of Canada, Can.

SO PCT Int. Appl., 47 pp.
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9949051	A1	19990930	WO 1999-CA238	19990322
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	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 6689604	B1	20040210	US 1999-272960	19990318
	CA 2323753	AA	19990930	CA 1999-2323753	19990322
	AU 9928230	A1	19991018	AU 1999-28230	19990322
	AU 745040	B2	20020307		
	EP 1082440	A1	20010314	EP 1999-908717	19990322
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002507424	T2	20020312	JP 2000-538012	19990322
	US 2003049270	A1	20030313	US 2002-58636	20020129
	US 6709834	B2	20040323		
	US 2004152165	A1	20040805	US 2004-799016	20040311
PRAI	US 1998-78891P	P	19980320		
	US 1999-272960	A	19990318		

WO 1999-CA238 W 19990322
US 2002-58636 A3 20020129

AB The invention provides DNA mols. that encode gene cst-I lipopolysaccharide α- **2,3 sialyltransferase** of Campylobacter **jejuni**. The DNA sequence of C. jejuni gene cst-I, as well as the corresponding amino acid sequence of lipopolysaccharide α- **2,3 sialyltransferase** are claimed. The invention also provides methods for the recombinant production of lipopolysaccharide α- **2,3 sialyltransferase** in prokaryotic and eukaryotic cells. The invention further provides the specificity of the C. **jejuni** lipopolysaccharide α- **2,3 sialyltransferase**. The C. **jejuni** lipopolysaccharide α- **2,3 sialyltransferase** uses terminal galactose acceptors that are β-(1→4) linked to either glucose or N-acetylglucosamine. The enzyme also uses terminal galactose acceptors that are β-(1→3) linked to N-acetylglucosamine or N-acetylgalactosamine. The enzyme uses cytidine monophosphate-N-acetylneuraminic acid (CMP-Neu5Ac) as the donor. The broad acceptor specificity of lipopolysaccharide α- **2,3 sialyltransferase** encoded by cst-I demonstrates its utility and makes it an attractive tool for chemo-enzymic synthesis of sialylated oligosaccharides.

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 6 MEDLINE on STN
AN 1999449955 MEDLINE
DN PubMed ID: 10520252
TI Synthesis of a disialylated hexasaccharide of type VIII group B Streptococcus capsular polysaccharide.
AU Eichler E; Jennings H J; Gilbert M; Whitfield D M
CS National Research Council, Ottawa, Ontario, Canada.
SO Carbohydrate research, (1999 Jun 30) 319 (1-4) 1-16.
Journal code: 0043535. ISSN: 0008-6215.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199912
ED Entered STN: 20000113
Last Updated on STN: 20000113
Entered Medline: 19991217

AB As part of our program to design, develop and prepare protective vaccines against the bacterial pathogens Group B Streptococcus, we report the

synthesis of a disialylated hexasaccharide. This hexasaccharide represents a portion of the serotype-specific capsular polysaccharide of Type VIII that has the tetrasaccharide repeat unit [beta-L-Rhap-(1-->4)-beta-D-Glcp-(1-->4)-[alpha-Neu5Ac-(2--> 3)]-beta-D-Galp-(1-->4)]n. A tetrasaccharide corresponding to this repeat unit has been synthesized by us [E. Eichler, H.J. Jennings, D.M. Whitfield, J. Carbohydr. Chemical, 16 (1997) 385-411]. Since the protective epitopes are believed to involve several repeat units, methods to extend this tetrasaccharide were examined. This objective requires a glycosylation of the unreactive OH-4 of the beta-L-Rhap, which was accomplished by coupling a D-Galp glycosyl trichloroacetimidate donor with a beta-L-Rhap-(1-->4)-D-Glcp acceptor. Subsequent coupling of this trisaccharide as a donor to an alpha-Neu5Ac-(2-->3)-D-Galp disaccharide acceptor gave a pentasaccharide. The pentasaccharide was deprotected and enzymatically sialylated using an alpha-(**2**-->**3**)-**sialyltransferase** from Campylobacter **jejuni** to give the title hexasaccahride alpha-Neu5Ac-(2-->3)-beta-D-Galp-(1-->4)-beta-L-Rhap-(1-->4)-beta-D-Glcp-(1-->4)-[alpha -Neu5Ac- (2-->3)]-beta-D-Galp-(1-->O)-(CH2)3N3.

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                   STN AnaVist, now available
 NEWS  4  AUG 11   Derwent World Patents Index(R) web-based training
during
                   August
 NEWS  5  AUG 11   STN AnaVist workshops to be held in North America
 NEWS  6  AUG 30   CA/CAplus -Increased access to 19th century
research documents
 NEWS  7  AUG 30   CASREACT - Enhanced with displayable reaction
conditions
 NEWS  8  SEP 09   ACD predicted properties enhanced in
REGISTRY/ZREGISTRY

 NEWS EXPRESS  JUNE 13 CURRENT WINDOWS VERSION IS V8.0, CURRENT
               MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005

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 NEWS WWW      CAS World Wide Web Site (general information)
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L1         1574 (2,3 (2A) SIALY OR SIALIC) (8A) (TREAT OR TREATMENT OR
MIMIC)

=> s jejuni (5A) ((2,3 (2A) Sialy or sialic) or (treat or treatment
or mimic))
L2          205 JEJUNI (5A) ((2,3 (2A) SIALY OR SIALIC) OR (TREAT OR
TREATMENT
                OR MIMIC))

=> s l1 and l2
L3            0 L1 AND L2

=> s jejuni (5A) ((2,3 (2A) Sialy or sialic)
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The number of right parentheses in a query must be equal to the
number of left parentheses.

=> s jejuni (5A) (2,3 (2A) Sialy or sialic)
L4            2 JEJUNI (5A) (2,3 (2A) SIALY OR SIALIC)

=> s jejuni (5A)(treat or treatment or mimic)
L5          203 JEJUNI (5A)(TREAT OR TREATMENT OR MIMIC)

=> s l1 and l4
L6            0 L1 AND L4

=> d l4 1-2 bib ab
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L4 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:628244 CAPLUS
DN 133:218534
TI Human glycosylation enzymes and cDNAs and their use in drug screening,
diagnosis, and therapy
IN Coleman, Timothy A.
PA Human Genome Sciences, Inc., USA
SO PCT Int. Appl., 115 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000052136	A2	20000908	WO 2000-US5325	20000301
WO 2000052136	A3	20001228		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2361593	AA	20000908	CA 2000-2361593	20000301
AU 2000033884	A5	20000921	AU 2000-33884	20000301
EP 1159406	A2	20011205	EP 2000-912096	20000301
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6333182	B1	20011225	US 2000-516143	20000301
JP 2002537796	T2	20021112	JP 2000-602748	20000301
US 2002137175	A1	20020926	US 2001-984205	20011029
US 6783971	B2	20040831		

US 2004142442 A1 20040722 US 2004-759277
20040120
US 6858415 B2 20050222
US 2005153331 A1 20050714 US 2004-999956
20041201
PRAI US 1999-122409P P 19990302
US 2000-516143 A3 20000301
WO 2000-US5325 W 20000301
US 2001-984205 A3 20011029
US 2004-759277 A3 20040120
AB The present invention relates to novel human glycosylation enzymes and
isolated nucleic acids containing the coding regions of the genes encoding
such enzymes. Also provided are vectors, host cells, antibodies, and
recombinant methods for producing human glycosylation enzymes. The
invention further relates to diagnostic and therapeutic methods useful for
diagnosing and treating disorders related to these novel human
glycosylation enzyme polypeptides. Thus, a human cDNA encoding a protein
with significant sequence homol. to mouse CMP N-acetylneuraminic acid
synthetase was cloned and sequenced. This gene was expressed primarily in
colon tissue. Another human cDNA encoded a protein with significant
sequence homol. to C. **jejuni** cytidine **sialic** acid
synthetase. A third human cDNA encoding a protein with significant
sequence homol. to E. coli N-acetylneuraminic acid aldolase was cloned and
sequenced. This gene was expressed primarily in immune cells and tissues
such as primary dendritic cells, monocytes, and bone marrow.

L4 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:626342 CAPLUS
DN 131:253359
TI Campylobacter jejuni gene cst-I lipopolysaccharide α-2,3
sialyltransferase, its DNA and amino acid sequences, recombinant
production, and its acceptor specificity
IN Gilbert, Michel; Wakarchuk, Warren W.
PA National Research Council of Canada, Can.
SO PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO.
DATE

PI	WO 9949051	A1	19990930	WO 1999-CA238 19990322
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	US 6689604	B1	20040210	US 1999-272960 19990318
	CA 2323753	AA	19990930	CA 1999-2323753 19990322
	AU 9928230	A1	19991018	AU 1999-28230 19990322
	AU 745040	B2	20020307	
	EP 1082440	A1	20010314	EP 1999-908717 19990322
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
	JP 2002507424	T2	20020312	JP 2000-538012 19990322
	US 2003049270	A1	20030313	US 2002-58636 20020129
	US 6709834	B2	20040323	
	US 2004152165	A1	20040805	US 2004-799016 20040311
PRAI	US 1998-78891P	P	19980320	
	US 1999-272960	A	19990318	
	WO 1999-CA238	W	19990322	
	US 2002-58636	A3	20020129	

AB The invention provides DNA mols. that encode gene cst-I lipopolysaccharide α-2,3 sialyltransferase of Campylobacter jejuni. The DNA sequence of C. jejuni gene cst-I, as well as the corresponding amino acid sequence of lipopolysaccharide α-2,3 sialyltransferase are claimed. The invention also provides methods for the recombinant production of lipopolysaccharide α-2,3 sialyltransferase in prokaryotic and

eukaryotic cells. The invention further provides the specificity of the C. jejuni lipopolysaccharide α-2,3 sialyltransferase. The C. jejuni lipopolysaccharide α-2,3 sialyltransferase uses terminal galactose acceptors that are β-(1→4) linked to either glucose or N-acetylglucosamine. The enzyme also uses terminal galactose acceptors that are β-(1→3) linked to N-acetylglucosamine or N-acetylgalactosamine. The enzyme uses cytidine monophosphate-N-acetylneuraminic acid (CMP-Neu5Ac) as the donor. The broad acceptor specificity of lipopolysaccharide α-2,3 sialyltransferase encoded by cst-I demonstrates its utility and makes it an attractive tool for chemo-enzymic synthesis of sialylated oligosaccharides.
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L7 10 L1 AND REVIEW

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L8 ANSWER 1 OF 8 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN DUPLICATE 1
AN 2004280592 EMBASE
TI Inhibition of microbial sialidases - What has happened beyond the influenza virus?.
AU Streicher H.
CS H. Streicher, Department of Chemistry, University of Konstanz, D-78457 Konstanz, Germany. hansjoerg.streicher@uni-konstanz.de
SO Current Medicinal Chemistry: Anti-Infective Agents, (2004) Vol. 3, No. 2, pp. 149-161.
Refs: 202
ISSN: 1568-0126 CODEN: CMCAFL
CY Netherlands
DT Journal; General Review

FS 004 Microbiology
037 Drug Literature Index
LA English
SL English
ED Entered STN: 20040722
Last Updated on STN: 20040722
AB Involvement of sialidases in a variety of microbial infections apart from that by influenza virus has been demonstrated but in contrast to the latter, where potent inhibitors have been developed on the basis of the lead compound 2-deoxy-2,3-didehydro-N-acetylneuraminic acid, inhibitor design for bacterial or trypanosomal sialidases has proven to be much less straightforward. This **review** intends to give an overview of the attempts, which have been made, including both substrate analogues and transition-state analogues of the sialidase reaction as well as structurally unrelated compounds. The bifunctionality of the viral haemagglutinin-neuraminidases, supported by recently obtained crystal structure data, or the modular architecture of some bacterial enzymes provide useful starting points for improvement of inhibitors through additional interactions beyond the active site itself. This seems especially to be the case for trypanosomal trans-sialidases the inhibition of which might require some sort of acceptor **mimic** in addition to the **sialic** acid analogue. .COPYRGT. 2004 Bentham Science Publishers Ltd.

L8 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:476191 CAPLUS
DN 137:197908
TI To sialylate, or not to sialylate: That is the question
AU Vimr, Eric; Lichtensteiger, Carol
CS Dept of Pathobiology, Division of Microbiology and Immunology, University of Illinois at Urbana-Champaign, Urbana, IL, 61802, USA
SO Trends in Microbiology (2002), 10(6), 254-257
CODEN: TRMIEA; ISSN: 0966-842X
PB Elsevier Science Ltd.
DT Journal; General Review
LA English
AB A **review**. Most oropharyngeal pathogens express sialic acid units on their surfaces, mimicking the sialyl-rich mucin layer coating

epithelial cells and the glycoconjugates present on virtually all host cell surfaces and serum proteins. Unlike the host's cells, which synthesize sialic acids endogenously, several microbial pathogens use truncated sialylation pathways. How microorganisms regulate sialic acid metabolism to ensure an adequate supply of free sugar for surface remodeling is a new area of research interest to basic scientists and those focused on the clin. outcome of the host-pathogen interaction. Microbial pathogens use one of four different mechanisms for decorating their surfaces with **sialic** acid residues in order to avoid, **mimic** or modulate host immune surveillance.

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:257664 CAPLUS
DN 137:30273
TI Glycosaminoglycan and sialic acid binding microbial proteins in gut tissue adhesion and invasion
AU Wadstrom, Torkel; Ljungh, Asa
CS Department of Medical Microbiology, Lund University, Lund, Swed.
SO Old Herborn University Seminar Monograph (2001), 14, 45-60
CODEN: OHUME5; ISSN: 1431-6579
PB Herborn Litterae
DT Journal; General Review
LA English
AB A **review**. Glycosaminoglycans (GAGs), heparin, heparan sulfate (HS) and other sulfated mols. and hyaluronic acid, form part of the extracellular matrix (ECM), mediate cell-ECM adhesion, cell migration and growth, and bind growth factors and growth factor-binding proteins.
Bacterial pathogens, like Helicobacter pylori, Staphylococcus aureus and Streptococcus pyogenes, and parasites such as Trypanosoma cruzi and Leishmania were shown to express cell surface proteins binding specific HS mols. on macrophages, triggering cell uptake and adhesion to fibronectin and other mols. involved in the phagocytic process. So, in addition to acting as a mechanism of tissue adhesion GAG binding may interfere with phagocytosis. It is tempting to speculate that GAG binding may play an

important role in intracellular survival in macrophages. Several microbial cell surface proteins interact with highly neg. charged sialic acid-containing glycoconjugates, e.g. fimbriae of Escherichia coli and Plasmodium falciparum, recognizing glycophorin on erythrocytes. Yersiniae cells can utilize HS binding for gut translocation, and Listeria monocytogenes cell entry is mediated by HS binding. Heparin was shown to mediate the erythrocyte invasion by P falciparum merozoites. H pylori invades through tight junctions which may be enhanced by expression of plasminogen binding. Heparin binding may interfere with vitronectin binding and complement activation. GAG binding proteins of Borrelia sp. are vaccine candidates for prevention and treatment of infections. Likewise, with H pylori a similar anti-adhesion approach is promising. Heparin binding microbes may interfere with the effect normally exerted by heparin binding growth factors, like wound healing and tissue integration. Heparin was shown to inhibit the mucosal inflammation and enhance tissue healing in mice infected by H pylori. Likewise, in patients with ulcerative colitis, heparin was shown to enhance the healing process. Before anti-adhesion **treatment** directed against GAG- and **sialic** acid binding proteins is developed effects on the normal intestinal microbial flora have to be elucidated.

RE.CNT 98 THERE ARE 98 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:619210 CAPLUS
DN 131:242002
TI Development of sialic acid production by enzymation
AU Maru, Isafumi; Ohnishi, Jun; Ohta, Yasuhiro; Tsukada, Yoji
CS Kyoto Res. Lab., Marukin Syhoyu Co., Ltd., Japan
SO Kagaku to Seibutsu (1999), 37(9), 592-597
CODEN: KASEAA; ISSN: 0453-073X
PB Gakkai Shuppan Senta
DT Journal; General Review
LA Japanese
AB A **review** with 20 refs. on mol. cloning, amino acid sequence, and application of acylglucosamine 2-epimerase (AGE) from porcine kidney to development of enzymic manufacture of sialic acid (N-acetylneuraminic acid)

from GlcNAc and pyruvic acid with N-acetylneuraminate lyase. Also described are the development of **sialic** acid analogs including Relenza as neuraminidase inhibitors for **treatment** of influenza.

L8 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:426047 CAPLUS
DN 131:82469
TI Recent advances in sialidase inhibitors for the treatment of influenza
AU Smith, Paul W.
CS Glaxo Wellcome, Stevenage, UK
SO Chimia (1999), 53(6), 297
CODEN: CHIMAD; ISSN: 0009-4293
PB Neue Schweizerische Chemische Gesellschaft
DT Journal; General Review
LA English
AB A brief **review** without refs. is given on the development of sialidase inhibitors. The unsatd. sialic acid analog Neu5Ac2en (DANA), 4-guanidino-Neu5Ac2en (zanamivir), 4-guanidino- and 4-amino-4H-pyran-6-carboxamides, a cyclohexyl analog of sialic acid bearing an ether group instead of a carboxamide, its Et ester prodrug, 6-ether, 6-ketone and reverse-pyrane analogs are considered.

L8 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:5443 CAPLUS
DN 130:153865
TI Design and synthesis of potential fucosyl transferase inhibitors
AU Van Der Marel, G. A.; Heskamp, B. M.; Veeneman, G. H.; Van Boeckel, C. A. A.; Van Boom, J. H.
CS Germany
SO Carbohydrate Mimics (1998), 491-510. Editor(s): Chapleur, Yves. Publisher: Wiley-VCH Verlag GmbH, Weinheim, Germany.
CODEN: 67BGAC
DT Conference; General Review
LA English
AB A **review** with 96 refs. on the preparation of sialyl Lex mimics as fucosyl transferase inhibitors.
RE.CNT 98 THERE ARE 98 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:634036 CAPLUS
DN 132:141741
TI Application development of sialic acids
AU Kawase, Saburo
CS Engineering Division, NGK Insulators, Ltd., Japan

SO Kagaku Kogaku no Shinpo (1998), 32(Seitai Kogaku), 142-147
CODEN: KKSHFQ
PB Maki Shoten
DT Journal; General Review
LA Japanese
AB A **review** with 11 refs. The author discussed the applications of sialic acid as an expectorant, an endotoxin shock-inhibiting agent, an filter for removal of viruses.

L8 ANSWER 8 OF 8 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN DUPLICATE 2
AN 1998007223 EMBASE
TI Nongenetic variation, genetic-environmental interactions and altered gene expression. III. Posttranslational modifications.
AU Poly W.J.
CS W.J. Poly, Department of Zoology, Southern Illinois University, Carbondale, IL 62901-6501, United States
SO Comparative Biochemistry and Physiology - A Physiology, (1997) Vol. 118,
No. 3, pp. 551-572.
Refs: 298
ISSN: 0300-9629 CODEN: CBPAB5
PUI S 0300-9629(96)00041-8
CY United States
DT Journal; General Review
FS 029 Clinical Biochemistry
LA English
SL English
ED Entered STN: 19980122
Last Updated on STN: 19980122
AB The use of protein electrophoretic data for determining the relationships among species or populations is widespread and generally accepted. However, posttranslational modifications have been discovered in many of the commonly analyzed proteins and enzymes. Posttranslational modifications often alter the electrophoretic mobility of the modified enzyme or protein. Because posttranslational modifications may affect only a fraction of the total enzyme or protein, an additional staining band often appears on gels as a result and this may confound interpretations. Deamidation, acetylation, proteolytic modification, and oxidation of sulfhydryl groups are modifications that often result in an electrophoretic mobility shift. Sialic acid-induced heterogeneity has

been documented for many enzymes, but neuraminidase **treatment** can often remove **sialic** acids and produce gel patterns that are easier to interpret. In some cases, ontogenetic and tissue-specific expression may be due to posttranslational modifications rather than gene control and restricted expression, respectively. Methods of preventing, detecting and eliminating posttranslational modifications are discussed.

Some posttranslational modifications may be useful for detecting cryptic genetic polymorphisms.